

# Budget Detail Request - Fiscal Year 2016-17

Your request will not be officially submitted unless all questions and applicable sub parts are answered.

1. Title of Project: Design and Performance Study of Flushing Solutions to Improve Water Quality in the Indian River Lagoon
2. Date of Submission: 12/17/2015
3. House Member Sponsor(s): Ritch Workman

## 4. DETAILS OF AMOUNT REQUESTED:

- a. Has funding been provided in a previous state budget for this activity? No  
*If answer to 4a is ?NO? skip 4b and 4c and proceed to 4d*
- b. What is the most recent fiscal year the project was funded?
- c. Were the funds provided in the most recent fiscal year subsequently vetoed? No
- d. Complete the following Project Request Worksheet to develop your request (Note that Column E will be the total of Recurring funds requested and Column F will be the total Nonrecurring funds requested, the sum of which is the Total of the Funds you are requesting in Column G):

FY:	Input Prior Year Appropriation for this project for FY 2015-16 <i>(If appropriated in FY 2015-16 enter the appropriated amount, even if vetoed.)</i>			Develop New Funds Request for FY 2016-17 <i>(If no new Recurring or Nonrecurring funding is requested, enter zeros.)</i>			
	Column: A	B	C	D	E	F	G
Funds Description:	Prior Year Recurring Funds	Prior Year Nonrecurring Funds	Total Funds Appropriated <i>(Recurring plus Nonrecurring: Column A + Column B)</i>	Recurring Base Budget <i>(Will equal non-vetoed amounts provided in Column A )</i>	<b>INCREASED or NEW Recurring Requested</b>	<b>TOTAL Nonrecurring Requested</b> <i>(Nonrecurring is one time funding &amp; must be re-requested every year)</i>	<b>Total Funds Requested Over Base Funding</b> <i>(Recurring plus Nonrecurring: Column E + Column F)</i>
Input Amounts:					0	1,345,000	1,345,000

- e. New Nonrecurring Funding Requested for FY 16-17 will be used for:  
 Operating Expenses     Fixed Capital Construction     Other one-time costs
- f. New Recurring Funding Requested for FY 16-17 will be used for:  
 Operating Expenses     Fixed Capital Construction     Other one-time costs

5. Requester:

- a. Name: Frank Kinny
- b. Organization: Florida Institute of Technology
- c. Email: fkinney@fit.edu
- d. Phone #: (321)674-8960

6. Organization or Name of Entity Receiving Funds:

- a. Name: Florida Institute of Technology
- b. County (County where funds are to be expended) Brevard
- c. Service Area (Counties being served by the service(s) provided with funding) Brevard, Indian River, Saint Lucie, Volusia

7. Write a project description that will serve as a stand-alone summary of the project for legislative review. The description should summarize the entire project's intended purpose, the purpose of the funds requested (if request is a sub-part of the entire project), and most importantly the detail on how the funds requested will be spent - for example how much will be spent on positions and associated salaries, specifics on capital costs, and detail of operational expenses. The summary must list what local, regional or statewide interests or areas are served. It should also document the need for the funds, the community support and expected results when applicable. Be sure to include the type and amount of services as well as the number of the specific target population that will be served (such as number of home health visits to X, # of elderly, # of school aged children to receive mentoring, # of violent crime victims to receive once a week counseling etc.)

Florida Institute of Technology (FIT) is proposing a design and performance study of flushing solutions to improve water quality in the IRL. The proposed study will examine: 1) Water quality benefits of constructing systems that allow ocean water into the IRL, and 2) Optimal design and cost of construction, operation and maintenance of each flushing system. FIT will evaluate the potential of traditional and innovative flushing systems at various locations in the IRL. The environmental performance of each system will be evaluated according to the ability to refresh the water in the IRL and improve water quality. Flushing system performance at 8-10 locations will be evaluated based on state-of-the-art numerical modeling. Systems investigated will range from weir structures to pump forced exchanges with the ocean, each based on traditional and novel designs. At each location, two designs will be tested for functionality and flushing efficiency. In order to expedite improvement of water quality in the IRL, and to identify the system designs that will have the most return on investment, we will compare each solution for: 1) degree of flushing improvement, 2) construction cost, 3) operational and maintenance cost, and 4) alternate use/additional benefits. From the performance study results, five systems will be selected for a more detailed design and cost analysis. The cost analysis will include the cost of construction, time to construct, cost of operation, and maintenance over a 20 year life cycle.

8. Provide the total cost of the project for FY 2016-17 from all sources of funding:

- Federal: 0
- State: 0 (Excluding the requested Total Amount in #4d, Column G)
- Local: 0
- Other: 0

9. Is this a multi-year project requiring funding from the state for more than one year?

No